

## (Part-I)

**2. Write short answers to any FOUR (4) questions: (8)**

(i) How can we gain background knowledge to define a problem?

**Ans** We try to know the situation and circumstances in which the problem is happening. In this way, we can identify the given state. It also helps to know what a good solution will look like. How we shall be able to measure the solution.

(ii) How does the strategy of prototype work to plan a solution?

**Ans** This technique draws a pictorial representation of the solution. It is not the final solution. However, it may help a designer to understand the important components of the solution.

(iii) Define algorithm.

**Ans** An algorithm is a set of steps to solve a problem. It is written in a natural language, so it is easily understandable by humans.

(iv) Write two disadvantages of a flowchart.

**Ans** Two disadvantages of a flowchart are:

1. More time is required to draw a flowchart.
2. Modifying a flowchart is not very easy every time.

(v) Convert  $(156)_{10}$  to binary number.

**Ans**

2	156	
2	78	-0
2	39	-0
2	19	-1
2	9	-1
2	4	-1
2	2	-0
2	1	-0
2	0	-1

So,  $(156)_{10} = (10011100)_2$

(vi) Define volatile memory.

**Ans** A device which holds data as long as it has power supply connected to it, is called Volatile Memory. Its best example is Random Access Memory (RAM), which holds memory only as long as it is connected to power source. As soon as the power supply is disconnected, all the data in RAM is cleared.

**3. Write short answers to any FOUR (4) questions: (8)**

(i) Describe distributive law of Boolean algebra.

**Ans** This law is discussed in two ways, i.e., "AND over OR" and "OR over AND".

(a)  $A \cdot (B + C) = (A \cdot B) + (A \cdot C)$  (AND over OR)

(b)  $A + (B \cdot C) = (A + B) \cdot (A + C)$  (OR over AND)

(ii) Define computer network.

**Ans** A computer network is a group of computer systems and other computing hardware devices linked together through communication channels. A network facilitates communication and resource-sharing among the connected devices.

(iii) For what the purpose hyper text transfer protocol (HTTP) is used?

**Ans** Hypertext Transfer Protocol is a protocol used by World Wide Web (WWW) to transfer webpages between a client and a web server. A web server is also called an HTTP server. We use this protocol while browsing Internet. For secure data transfer, we use HTTPS.

(iv) What is router?

**Ans** A router is a networking device that forwards data packets from one network to another.

(v) **What is softlifting?**

**Ans** Borrowing and installing a copy of a software application from a colleague is called softlifting.

(vi) **What do you know about online piracy?**

**Ans** Typically involves downloading illegal software. The software industry is prepared to battle against software piracy. The courts are dealing with an increasing number of lawsuits concerning the protection of software.

**4. Write short answers to any FOUR (4) questions: (8)**

(i) **Who is hacker?**

**Ans** A computer expert who can steal data when it moves from one location to other, is called hacker.

(ii) **What is advance fee fraud?**

**Ans** Sometimes, the hackers congratulate you upon winning a big prize and ask you pay a small amount in advance, so that the prize can be dispatched. This is a common type of cyber crime. The lure of easy wealth has found many victims of these frauds.

(iii) **Define hypertext.**

**Ans** The term Hypertext is used due to the special text in a webpage called hyperlinks. By clicking on these links, you can move from one webpage to another. Hyperlinks are used to navigate on the World Wide Web (WWW).

(iv) **What are paired tags?**

**Ans** Most of the tags in HTML are paired tags. They consist of a start tag, an end tag and contents between them.

(v) **When do we use rowspan?**

**Ans** To make a cell span more than one row, rowspan attribute is used.

(vi) **What is CCTV?**

**Ans** CCTV stands for Closed-Circuit Television.

**NOTE: Attempt any TWO (2) questions.**

**Q.5. What are storage devices? Differentiate between memory and storage? (8)**

**Ans → Storage Device:**

Any computing hardware that is used for storing, porting and extracting data, is called a storage device. It can hold or store information both temporarily and permanently. It can also be internal or external to a computer. An external storage device is a plug and play device, i.e., we just plug it to some port and start using it without turning off a computer. To attach an internal storage device (Hard disk or RAM), we need to turn off the computer. Internal storage devices are connected to some fixed slots.

**Examples:**

RAM, Hard disk, CD, USB Flash Drive, etc.

**Difference between Memory and Storage:**

Table shows the difference between memory and storage.

Memory	Storage
Place where an application loads its data during processing.	Usually the place where data is stored for long or short term.
Temporary storage device.	Permanent storage device.
Lesser in size.	Greater in size.
High accessing speed.	Low accessing speed.
It is called primary memory.	It is called secondary memory.

**Q.6. Write importance of encryption for everyday life on the internet. (8)**

**Ans → Importance of Encryption for Everyday Life on the Internet:**

Encryption is one of the most important methods for providing data security. In everyday life on the Internet, vast

amounts of personal information are stored on multiple places. So, it is important to know how to keep data private. Encryption is important because it allows you to secure data from illegal access. Importance of encryption can be described in the following three points:

### **1. Protection from Hackers:**

Hackers don't just steal information; they can also alter the data to commit fraud. For example, in a bank transaction or online money transfer, they can fraud by changing the target account number.

### **2. Encryption Protects Privacy:**

Encryption is used to protect sensitive data, including personal information for individuals. This helps to ensure privacy and minimizing the opportunities for surveillance by criminals.

### **3. Encryption Protects Data Across Devices:**

Multiple (and mobile) devices are a big part of our lives, and transferring data from device to device is a risky proposition. Encryption technology can help protect stored data across all devices, even during transfer. Additional security measures like advanced authentication help deter unauthorized users.

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## **Q.7. Describe the method of creating a table in HTML. (8)**

### **Ans → Creating Tables:**

In HTML, a table is defined with the `<table>` tag. Each table row is defined with the `<tr>` tag. A table header is defined with the `<th>` tag. A table data or cell is defined with the `<td>` tag.

See the following example with output.

`<table>`

`<tr>`

```

<th>Firstname</th><th>Lastname</th><th>Age</th>
</tr>
<tr>
    <td>Ali</td><td>Ahmed</td><td>50</td>
</tr>
<tr>
    <td>Usman</td><td>Ali</td>    <td>60</td>
</tr>
</table>

```

Firstname	Lastname	Age
Ali	Ahmed	50
Usman	Ali	60

Table tag output.

### Apply the following table attributes:

- Colspan:

To make a cell span more than one columns, colspan attribute is used. See the following example with output.

```

<table>
    <tr>
        <th>Name</th><th colspan="2">Telephone</th>
    </tr>
    <tr>
        <td>Ali Ahmed</td>
        <td>5557785412</td>
        <td>5557785545</td>
    </tr>
</table>

```

Cell that spans two columns

Name	Telephone	
Ali Ahmed	5557785412	5557785545

Col span output.

## • Rowspan:

To make a cell span more than one row, rowspan attribute is used. See the following example with output.

```
<table>
```

```
  <tr>
```

```
    <th>Name:</th>
```

```
    <td>Ali Ahmed</td>
```

```
  </tr>
```

```
  <tr>
```

```
    <th rowspan="2">Telephone:</th>
```

```
    <td>5557785423</td>
```

```
  </tr>
```

```
  <tr>
```

```
    <td>55577855456</td>
```

```
  </tr>
```

```
</table>
```

Name:	Ali Ahmed
Telephone:	5557785425
	55577855456

Row span output.